AMENDMENTS TO THE CLAIMS

1. (original) A multilayer dielectric tunnel barrier structure for use in semiconductor memory devices, said tunnel barrier structure comprising:

a substrate supporting a magnetic layer;

an ALD deposited first nitride junction layer formed over said magnetic layer;

an ALD deposited intermediate junction layer formed over said first nitride junction layer; and

an ALD deposited second nitride junction layer formed over said intermediate tunnel junction layer.

2. (original) A structure as in claim 1, wherein said magnetic layer is a ferromagnetic layer.

3. (original) A structure as in claim 2, wherein said ferromagnetic layer is pinned.

4. (original) A structure as in claim 2, wherein said ferromagnetic layer is free.

5. (original) A structure as in claim 1, wherein said first nitride junction layer is formed of one or more nitride monolayers.

6. (original) A structure as in claim 5, wherein said first nitride junction layer is formed of AlN.

7. (original) A structure as in claim 6, wherein said first nitride junction layer has a thickness of approximately .8 A° to approximately 58 A°.

8. (original) A structure as in claim 1, wherein said intermediate junction layer is an oxide layer.

9. (original) A structure as in claim 8, wherein said oxide layer is formed of one or more monolayers.

10. (original) A structure as in claim 9, wherein said oxide layer is formed of Al_xO_y, HfO, Ta_2O_5, SiO_2, or combinations thereof.

11. (original) A structure as in claim 1, wherein said intermediate junction layer is formed on said first nitride junction layer

12. (original) A structure as in claim 11, wherein said intermediate junction layer and first nitride junction layer is approximately 1.6 A° to approximately 59 A° thick.

13. (original) A structure as in claim 12, wherein said intermediate junction layer has a thickness of approximately .8 A° to approximately 58 A°.

14. (original) A structure as in claim 1, wherein said second nitride junction layer is formed from one or more nitride monolayers.

15. (original) A structure as in claim 14, wherein said second nitride junction layer is formed of AlN.

16. (original) A structure as in claim 1, wherein said second nitride junction layer and intermediate junction layer and first nitride junction layer is approximately 2.4 A° to approximately 60 A° thick.

17. (original) A structure as in claim 16, wherein said second nitride junction layer has a thickness of approximately .8 A° to approximately 58 A°.

18. (original) A structure as in claim 16, wherein said second nitride junction layer interfaces with a ferromagnetic layer.

19. (original) A structure as in claim 18, wherein said ferromagnetic layer is pinned.

20. (original) A structure as in claim 18, wherein said ferromagnetic layer is free.

21. (original) A structure as in claim 1, wherein said first and second nitride junction layers are approximately 4 A° thick and the intermediate junction layer is approximately 4 A° thick.

22. (original) A structure as in claim 1, wherein said first and second nitride junction layers are approximately 2 A° thick and the intermediate junction layer is approximately 6 A° thick.

23. (original) A structure as in claim 1, wherein said first and second nitride junction layers are approximately 4 A° thick and the intermediate junction layer is approximately 10 A° thick.

24. (original) A structure as in claim 1, wherein said first and second nitride junction layers are approximately 20 A° thick and the intermediate junction layer is approximately 40 A° thick.

Claims 25-83 (canceled).

84. (original) A system comprising:

a processor; and

a memory device coupled to said processor, at least one of said processor and said memory device using a magnetic tunnel

junction structure; at least one of said processor and said memory device and said magnetic tunnel junction structure comprising a multilayer dielectric tunnel barrier structure, said tunnel barrier structure comprising:

a substrate supporting a magnetic layer;

an ALD deposited first nitride junction layer formed over said magnetic layer;

an ALD deposited intermediate junction layer formed over said first nitride junction layer; and

an ALD deposited second nitride junction layer formed over said intermediate tunnel junction layer.

85. (original) A system as in claim 84, wherein said magnetic layer is a ferromagnetic layer.

86. (original) A system as in claim 85, wherein said ferromagnetic layer is pinned.

87. (original) A system as in claim 85, wherein said ferromagnetic layer is free.

88. (original) A system as in claim 84, wherein said first nitride junction layer is formed of one or more nitride monolayers.

89. (original) A system as in claim 88, wherein said first nitride junction layer is formed of AlN.

90. (original) A system as in claim 89, wherein said first nitride junction layer has a thickness of approximately .8 A° to approximately 58 A°.

91. (original) A system as in claim 84, wherein said intermediate junction layer is an oxide layer.

92. (original) A system as in claim 91, wherein said oxide layer is formed of one or more oxide monolayers.

93. (original) A system as in claim 92, wherein said oxide layer is formed of Al_xO_y, HfO, Ta_2O_5, SiO_2, or combinations thereof.

94. (original) A system as in claim 91, wherein said intermediate junction layer is formed on said first nitride junction layer

95. (original) A system as in claim 94, wherein said intermediate junction layer and first nitride junction layer is approximately 1.6 A° to approximately 59 A° thick.

96. (original) A system as in claim 95, wherein said intermediate junction layer has a thickness of approximately .8 A° to approximately 58 A°.

97. (original) A system as in claim 84, wherein said second nitride junction layer is formed of one or more nitride monolayers.

98. (original) A system as in claim 97, wherein said second nitride junction layer is formed of AlN.

99. (original) A system as in claim 84, wherein said second nitride junction layer and intermediate junction layer and first nitride junction layer is approximately 2.4 A° to approximately 60 A° thick.

100. (original) A system as in claim 99, wherein said second nitride junction layer has a thickness of approximately .8 A° to approximately 58 A°.

101. (original) A system as in claim 100, wherein said second nitride junction layer interfaces with a ferromagnetic layer.

102. (original) A system as in claim 101, wherein said ferromagnetic layer is pinned.

103. (original) A system as in claim 101, wherein said ferromagnetic layer is free.